

# **Comparative study on intraoperative bleeding and postoperative outcome in patients with well controlled Toxic Multinodular goitre and Graves' disease with and without lugol's iodine**

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## **Abstract**

**AIM:** To investigate the effect of preoperative Lugol's iodine on intraoperative bleeding and postoperative outcome in well controlled toxic MNG/ Graves'disease patients.

**MATERIAL AND METHODS:** This controlled, randomized, prospective cohort was carried out on 40 patients who admitted for surgery due to hyperthyroidism. Cases were randomly assigned to receive either preoperative treatment with Lugol solution (Group 1) or no preoperative treatment with Lugol solution (Group 2). Blood flow through the thyroid arteries of patients was measured by color flow Doppler ultrasonography. Free T3, free T4, TSH, thyroid volume and the resistance index of superior thyroid arteries were measured in all patients.

**RESULTS:** There was not a significant difference between gender, preoperative serum thyroid hormone levels, or thyroid gland volumes between groups 1 and 2. The mean blood flow of the patients in Group 1 was significantly lower than values in Group 2. When age, gender, thyroid hormone, TSH, thyroid volume, blood flow, and Lugol solution treatment were included as independent variables, Lugol solution treatment (  $p = 0.001$ ) was found to be significant determinant of blood flow. Lugol solution treatment resulted in a 7 fold decrease in the blood flow. Though there was difference in intraoperative bleeding and postoperative outcome in group 1 and 2. The values were statistically insignificant.

**CONCLUSION:** Preoperative Lugol solution treatment decreased the rate of blood flow of thyroid glands however there was no significant difference in intraoperative bleeding and postoperative outcome in patients underwent total thyroidectomy.